

## The long term outlook for China's chrome demand and outbound investment

Meet the ICDA  
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## The Beijing Axis – 4 cross-border businesses



- Founded in 2002; has successfully worked with many international and Chinese MNCs
- Operates in four synergistic cross-border China businesses
- Provides services across various sectors, with a core focus on the MINING, RESOURCES, INDUSTRIAL and ENGINEERING sectors
- Provides solutions to international firms as they act in unfamiliar territory in China/Asia
- Provides solutions to Chinese firms as they venture out and 'go global'

## Key global factors

### The backdrop

- The rise of China ... global supply shock as producer ... engine as consumer
- New competitive lines and forces, winners/losers – the rise of Asia, BRICS, etc
- A two-speed global economy over long term?
- A lasting new GDP trajectory in Africa – governance, growth, stability, infrastructure, confidence, etc

### The issues now

- Risks in the developed world ... US debt, Europe – and knock-on effect
- China's landing – soft or hard? Implications for growth and resource demand?
- Tapping into the China story vs over-reliance on China and need to diversify economic ties
- Rising costs, and capacity/skills shortages in certain sectors/regions

## Agenda

### Resource Consumption in China/Asia

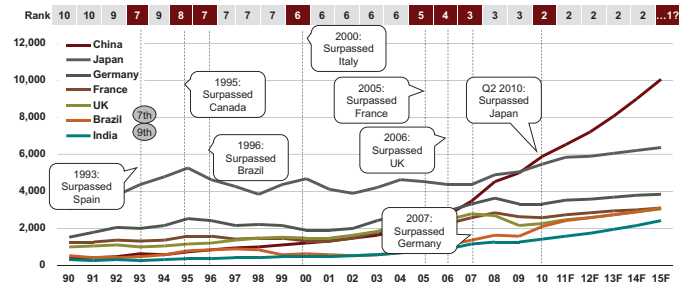
### China's Outbound Investment

### Implications and Future Trends

### Final Word

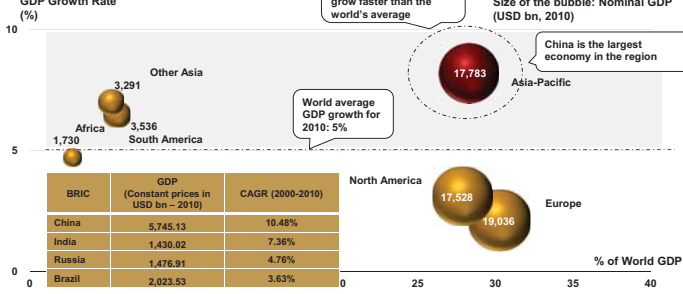
China became the world's second-largest economy in 2010 and is likely to overtake the US to become the world's largest economy around 2025

Top Economies' GDP, excl. US (USD bn, 1990-2015F)



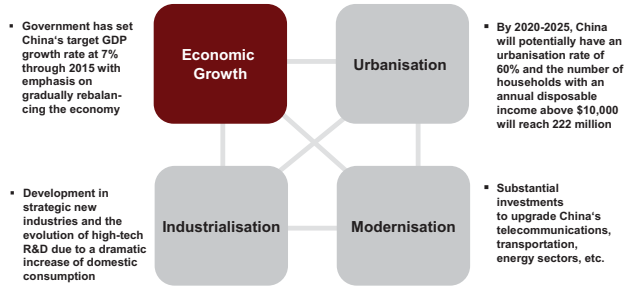
The combined economies of the Asia-Pacific region account for 28% of the world's GDP. Almost all the developing economies grew faster than the world's average

Regional GDP Comparison (USD bn, 2010)



Source: IMF; The Beijing Axis Analysis

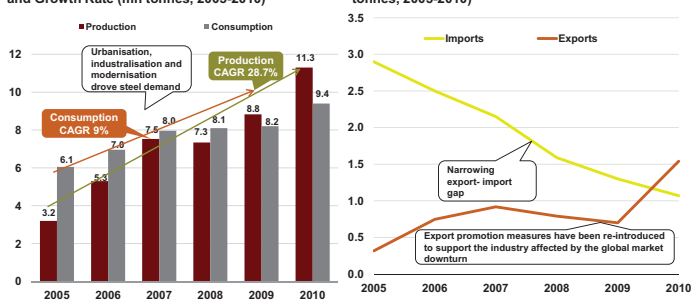
There are several factors driving China's economic growth. Urbanisation, industrialisation and modernisation are the major catalysts behind this trend



Source: The Beijing Axis Analysis

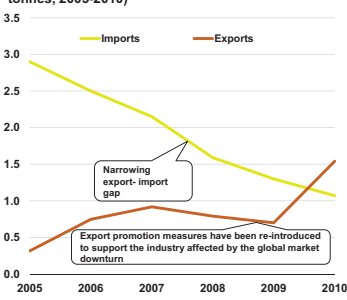
China's stainless steel production keeps growing since 2005

China's Stainless Steel Production, Consumption and Growth Rate (mn tonnes, 2005-2010)



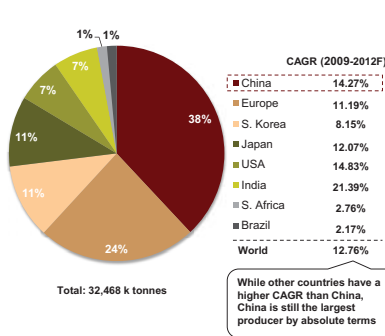
Source: China Mining; Bloomberg; The Beijing Axis Analysis

China's Stainless Steel Import and Export (mn tonnes, 2005-2010)



China accounts for 38% of the total global stainless steel production. New projects and expansions are undergoing highlighting the need for stainless steel production in China

Stainless Steel Production by Country (% 2010)



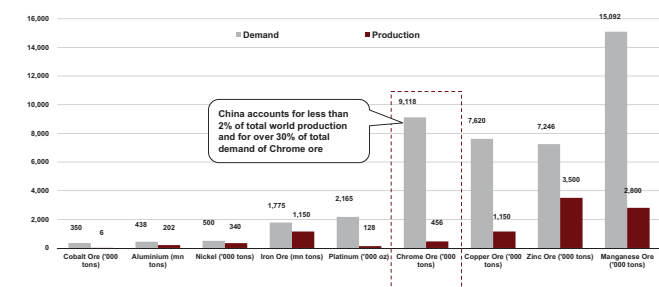
Stainless Steel - Global Melting Capacities

- Global Forecast**
- Global utilization ratio will increase from 84% in 2010 to 89% in 2015
  - Global melting capacity is expected to grow at an average rate of 8.4% (2008-2015F)
  - Chinese melt production may rise to 18 MMTPA by 2015. As a result, China could be producing 55% of the world's stainless steel
  - China will have to import drastically in order to meet these numbers. About 4.5-9 MMTPA of chrome ore needs imports by China every year
- Key Projects**
- Jindal Stainless, India (2011/ 800 kty)
  - Tsingshan Holdings, China (2012/ 800 kty)
  - ThyssenKrupp Stainless, USA (2013/ 900 kty)
  - Bahru Stainless, Malaysia (2015/1,000 kty)
  - Ongoing expansion of mills in India and China

Source: Heinz H Pariser; The Beijing Axis Analysis

China's demand outstrips domestic supply across a number of commodities. As a result, imports are needed to compensate for the deficit

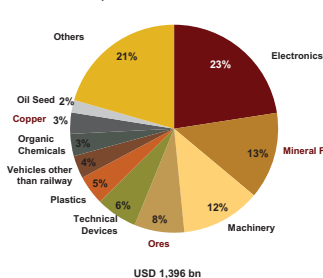
China's Implied Demand and Domestic Production of Commodities (2010)



Source: USGS; BP; WGC; USDA; Various; The Beijing Axis Analysis

To fuel China's growing economy and meet its resource demands, China is relying heavily on imports

China's Import Structure (Based on 2 Digit HS Codes, 2010)



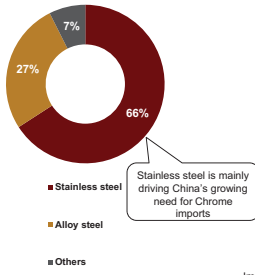
China's Top Imported Resources (2010)

Rank	Import Commodities	Trade Value (USD mn)	Net Weight (mn tons)	As % of Total
1	Petroleum oils, oils from bituminous minerals, crude	134,966	239.3	9.68%
2	Iron ores and concentrates, roasted iron pyrites	79,072	618.8	5.67%
3	Oils petroleum, bituminous, distillates, except crude	22,298	36.9	1.60%
4	Coal	21,058	188.3	1.51%
5	Copper ores and concentrates	12,648	6.5	0.91%
6	Manganese ores, concentrates, iron ores >20% Manganese	2,806	11.6	0.20%
7	Lead ores and concentrates	2,401	1.6	0.17%
8	Chromium ores and concentrates	2,399	8.7	0.17%
9	Zinc ores and concentrates	2,082	3.2	0.15%
10	Nickel ores and concentrates	1,945	25.0	0.14%

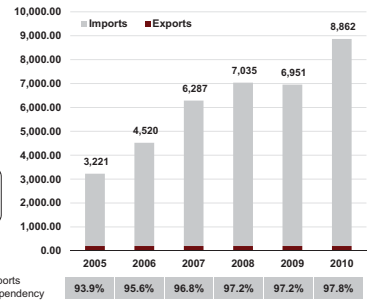
\*Note: Total means China's total imports based on trade value; Mineral fuel includes coal  
Source: UN Comtrade; The Beijing Axis Analysis

As the world's largest Chrome consumer, China has been extremely dependent on imports. The dependency ratio has steadily grown, reaching 97.8% in 2010

China's End Users of Chrome by Sector (%), 2008



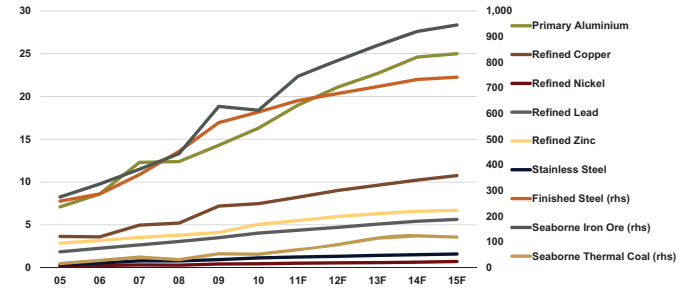
China's Chrome Ore Consumption\* ('000 tons, 2005-2010)



Note: Apparent consumption = Production + Imports - Exports  
Source: USGS; UN Comtrade; The Beijing Axis Analysis

Dependency on imports is expected to continue as China's mineral imbalance widens. Stainless steel is expected to reach 1,580 mt by 2015

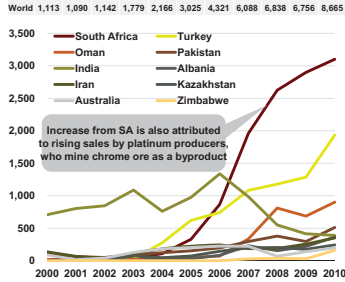
China's Commodity Demand Outlook, Selected Commodities (mn tonnes, 2005-2015F)



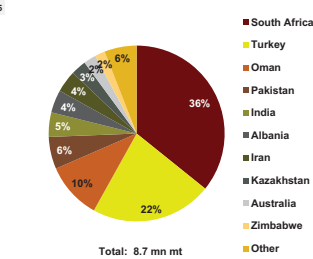
Source: Morgan Stanley; Deutsche Bank; The Beijing Axis Analysis

Due to increase in stainless steel demand and lack of domestic chrome ore supply, chrome ore imports have increased substantially. South Africa is China's leading supplier, taking up 36% of China's total imports

China's Imports of Chrome by Weight; Top 10 Sources ('000 tons, 2000-2010)

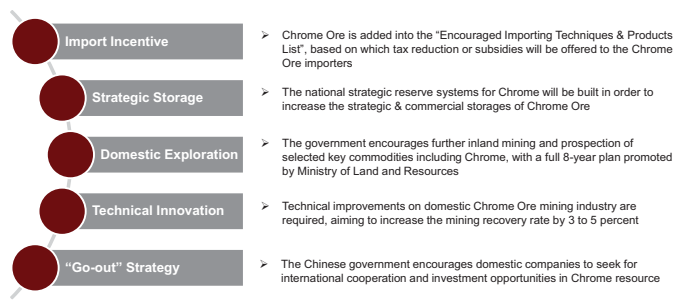


Breakdown of China's Imports of Chrome by Country (2010)



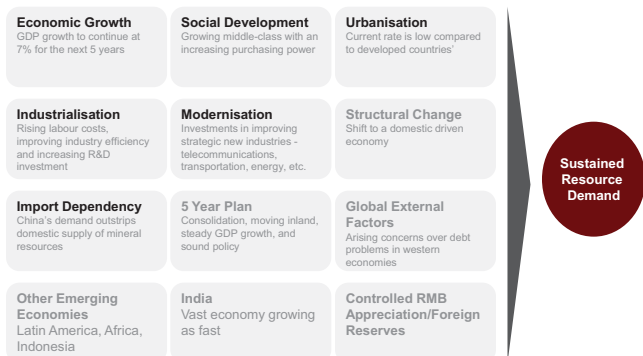
Source: UN Comtrade; The Beijing Axis Analysis

In order to address the high import dependence issue, China has carried out various incentive programs on imports, strategic storage, domestic resource prospecting, overseas acquisition and technical innovation



Source: Various; The Beijing Axis Analysis

Various drivers underpin sustained resource demand



Source: The Beijing Axis Analysis

Agenda

Resource Consumption in China/Asia

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Final Word

China has not historically been a major foreign investor in mining: A snapshot of seven years ago



Note: The red dots represent Chinese mining investment locations  
Source: UN Comtrade database; The Beijing Axis Analysis

But in recent years, China started to make many major global mining investments: Two years ago



Note: The red dots represent Chinese mining investment locations  
Source: UN Comtrade database; The Beijing Axis Analysis

These mining investments have accelerated rapidly: One year ago



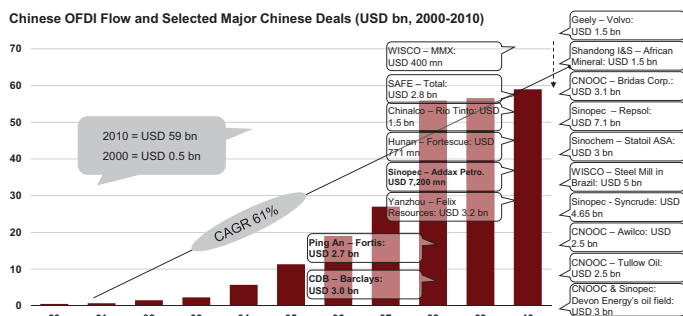
Note: The red dots represent Chinese mining investment locations  
Source: UN Comtrade database; The Beijing Axis Analysis

Chinese mining investment is now a worldwide phenomenon: Present



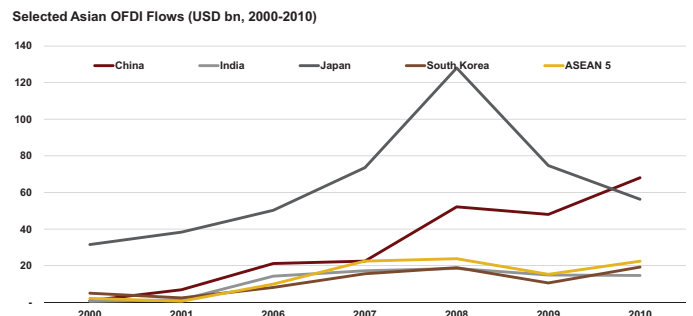
Source: The Beijing Axis Analysis

The past five years represented an international resource acquisition spree for China. Deals in the resource sector have consistently constituted a large portion of its international acquisitions



Source: MOFCOM; The Beijing Axis Analysis

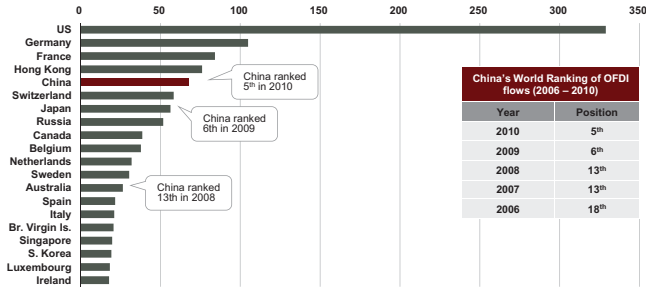
China continues to increase its share of Asian OFDI. As recently as 2004, China's total outward investment flows were at levels comparable to South Korea, Japan and the ASEAN 5\*



\*Note: ASEAN 5 includes Indonesia, Malaysia, Philippines, Thailand and Vietnam  
Source: UNCTAD; The Beijing Axis Analysis

China's OFDI flows have become comparatively larger. China's outward FDI flow has jumped from being the thirteenth-largest to sixth-largest in only two years

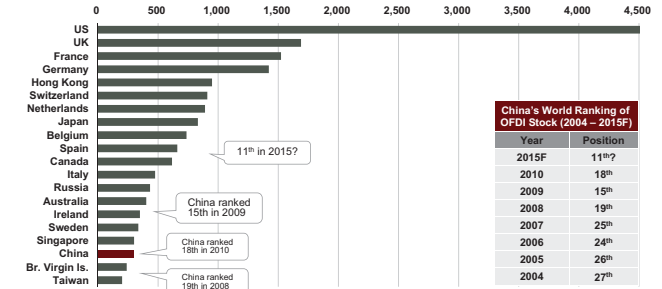
World Top 20 Outward FDI Flows (USD bn, 2010)



Year	Position
2010	5 <sup>th</sup>
2009	6 <sup>th</sup>
2008	13 <sup>th</sup>
2007	13 <sup>th</sup>
2006	18 <sup>th</sup>

China's resolute 'going abroad' policy is likewise elevating China in the global rankings of OFDI stock

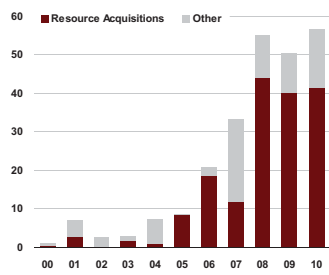
Top 20 World FDI Outward Stock (USD bn, 2010)



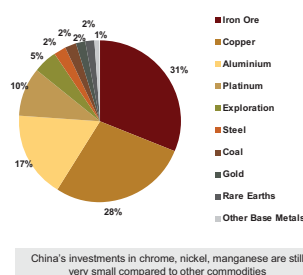
Year	Position
2010F	11 <sup>th</sup> ?
2010	18 <sup>th</sup>
2009	15 <sup>th</sup>
2008	19 <sup>th</sup>
2007	25 <sup>th</sup>
2006	24 <sup>th</sup>
2005	26 <sup>th</sup>
2004	27 <sup>th</sup>

Resources occupy a central position in Chinese overseas investment; deals in iron ore, copper and aluminum have recently received the most attention

China's Investment Flows by Sector (USD bn, 2000-2010)



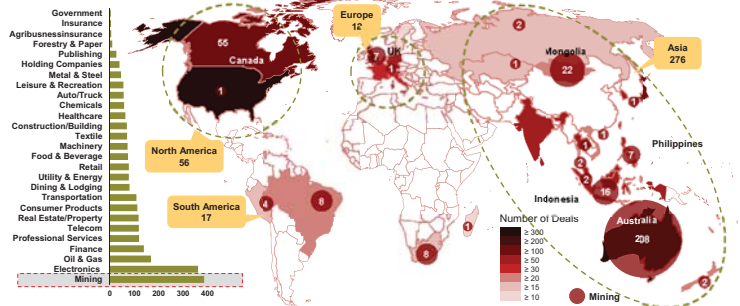
Value of China's Mining and Metals\* Investments by Commodity (2010)



\*Note: Excludes oil  
Source: Ernst & Young; Heritage Foundation; MOFCOM; The Beijing Axis

Digging down to the country level provides a more accurate picture of the Chinese OFDI flow. Mining and oil & gas are the key targets, underlining the prominence of Australia, Canada, Africa and Latin America

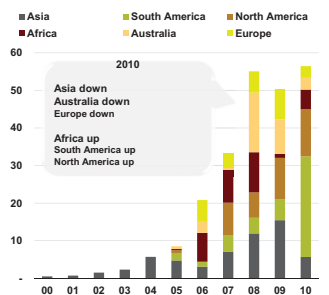
CHN/HK Outward Deals for Top 30 Countries and Target Sectors (2000-May 2011)



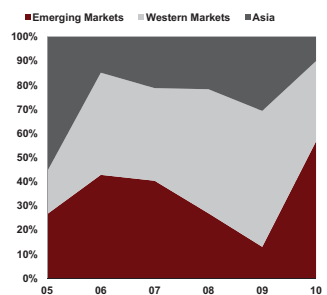
\*Note: The Dealogic M&A database was used here; it groups China and Hong Kong outward investments.  
Source: Deutsche Bank; Dealogic; The Beijing Axis Analysis

The last year saw a shift in China's focus toward emerging economies, but developed economies are still significant as well. High-value investments in South America and Africa highlight the growing importance of the 'south-south' relationship

China's Overseas Investments (USD bn, 2000-2010)

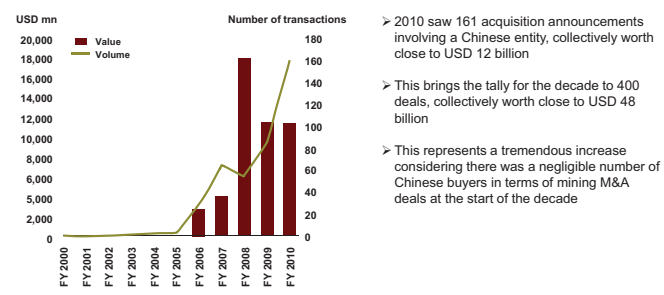


China's Investment Destinations (% 2005-2010)



China's role in global mining M&A deals has been growing over the last decade

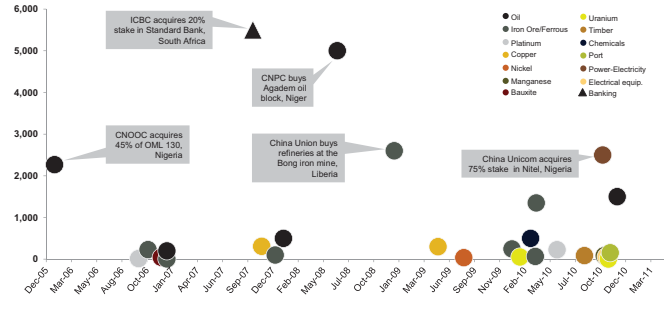
Chinese Equity Acquisitions in the Global Mining Sector (2000 - 2010)



- 2010 saw 161 acquisition announcements involving a Chinese entity, collectively worth close to USD 12 billion
- This brings the tally for the decade to 400 deals, collectively worth close to USD 48 billion
- This represents a tremendous increase considering there was a negligible number of Chinese buyers in terms of mining M&A deals at the start of the decade

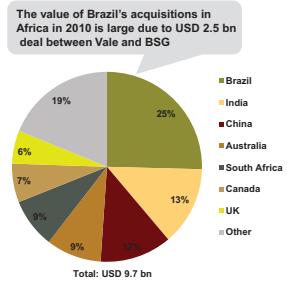
Africa, with its abundant natural resources, has been a key destination for Chinese investment with five successful mega-deals valued at over USD 2 billion

Major Chinese Investments in Africa (2006–2010)



While Chinese companies are the dominant force for investments into the African mining sector, other emerging economies are competing with China for access to resources

Mining Acquisitions in Africa by Country\* (2010)

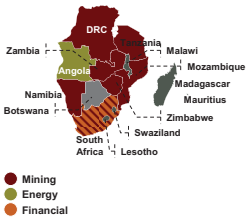


Major players

- China National Petroleum Corporation (CNPC) - Algeria, Chad, Equatorial Guinea, Libya, Mauritania, Niger, Nigeria, Sudan, and Tunisia (oil and gas)
- Jinchan Group (JNMC) - Zambia, Tanzania (nickel), South Africa (platinum)
- SinoSteel Corporation - South Africa, Zimbabwe and Cameroon (iron ore and steel)
- China Nonferrous Metal Mining Corporation - Zambia (copper)
- POSCO - Zambia (iron ore and steel), Zimbabwe (silicon), Congo (iron ore and copper)
- Korea Electric Power Corporation - Niger (uranium)
- Vale - Guinea (Iron Ore), Zambia (copper)
- ZYL Limited - South Africa (anthracite)
- Nava Bharat Ventures Limited - Zambia (coal)
- National Mineral Development Corporation - Senegal (iron ore)

Indeed, mining has been the focus of Chinese investment into SADC countries. Expect more to come

Selected Chinese Investment in SADC Countries

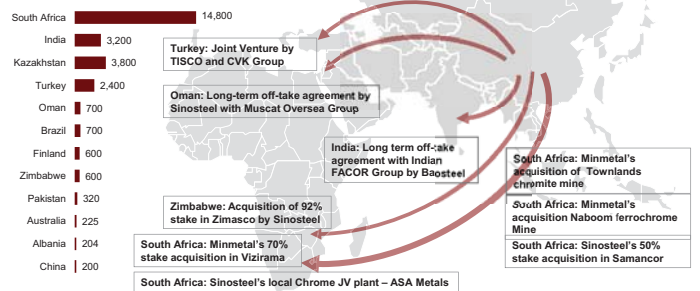


Date	Acquirer	Target	Country	Industry	Value USD
Aug-11	China African Precious Metals Ltd.	Pamodzi Gold Orkney	South Africa	Mining	22 mn
Jul-11	Jinchan Group	Metorex	South Africa	Mining	1.3 bn
Nov-10	Yingli Solar	(South African developer)	South Africa	Energy	435 mn
Jul-10	Jidong Development	WIPHOLD, Continental Cement	South Africa	Cement	218 mn
Jun-10	Wuhan Iron and Steel	Riversdale*	Mozambique	Mining	800 mn
May-10	Jinchan Group and CAD Fund	Wesizwe	South Africa	Mining	878 mn
Jan-10	Jinchan Group	Tanzanian Royalty Exploration	Tanzania	Mining	n/a
Dec-09	Jinan Yuxiao Group	Mining assets	Mozambique	Mining	n/a
Aug-09	Jinchan Group	Munali	Zambia	Mining	37 mn
Jul-09	Sinopec & CNOOC*	Oil field (Marathon Oil)	Angola	Energy	1.3 bn
May-09	CNMIC	Luanshya Copper Mines	Zambia	Mining	n/a
Apr-09	Minmetals	Mining assets	South Africa	Mining	81mn
Jan-09	Minmetals	Vizirama	South Africa	Mining	n/a
Jan-08	Norlinton Holdings	Mining assets	Namibia	Mining	50 mn
Dec-07	SinoSteel	Zimasco	Zimbabwe	Mining	n/a
Oct-07	CNMIC	Chambishi West Orebody Project	Zambia	Mining	100 mn

\*Note: Failed deal  
Source: Various; The Beijing Axis Analysis

China's overseas endeavor for Chrome has been one of the country's key activities with major suppliers which include resource acquisitions, long term off-take agreements, and Ferrochrome plant investments

Chrome Production ('000 tons, 2010) and Selected Overseas Chrome Transactions Initiated by China



Sustained outbound investments is mainly driven by increasing resource demand to meet growing the domestic consumption

China Overseas Direct Investment – Key Drivers

Cumulative capital stock must align	Annual investment flow must adjust	Government policies set the tone	Geopolitical ambitions necessitate 'reach'
Global challengers look different	Internationalised corporate balance sheets	Pursuit of advanced technologies	Resource pipelines are being built
Wider industry acquisitions	Strengthening RMB & Foreign Reserves	'Go global' policy to continue	Wider market interest

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Resource Consumption in China/Asia

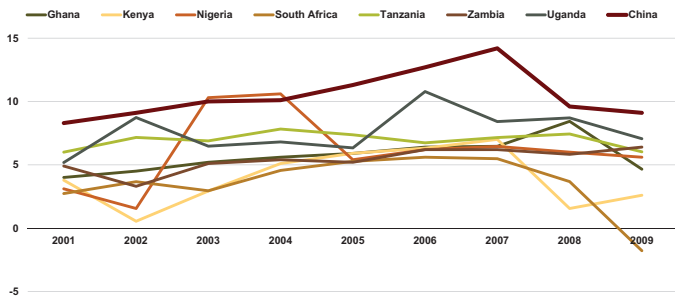
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Final Word

China's consistent GDP growth has pushed African countries towards a similar growth pattern owing to the commodity demand and increase in trade

GDP Growth Rate for China and Selected African Countries (% 2001-2009)



Source: World Bank; China Customs Data; The Beijing Axis Analysis

China can bring value and opportunities in terms of capital, markets and sourcing

- Source of capital: strategic equity partner or divest non-core asset
- User of capital: ECM and DCM
- Infrastructure investment
- Comprehensive package – across project development cycle
- Need to strategically manage the engagement as a continent ...



- Voracious consumer of metals leads to off-take and financing opportunities
- Long term driver of demand but no one-way bets
- China's need for international investment, technology, and know-how

- China as a low-cost manufacturer
- Significant cost savings can be achieved by sourcing from China
- Must be considered as a capital project and supply chain partner

Source: The Beijing Axis Analysis

Much of China's involvement in Africa has a positive social impact...

- African countries look to China for an alternative to the multi-tiered conditions that accompany aid and loans from the World Bank and the IMF
- A definite gain is infrastructure improvements that increases the ability of African countries to participate in a competitive global economy
- Chinese economic activity in Africa extends into public infrastructure, such as the building of hospitals, schools and affordable housing, which greatly benefit the general populace
- Chinese construction activities in Africa create a source of employment for the local population
- Cheaper Chinese manufactured goods and services are more readily affordable to impoverished African consumers and provide them with access to new products
- Academic and athletic exchanges are also on the rise. In recent years, China has sent about 12 coaches to 40 African countries to help them develop capabilities in certain sports such as table tennis
- There is great potential to reduce procurement costs when sourcing from China, although this needs careful management

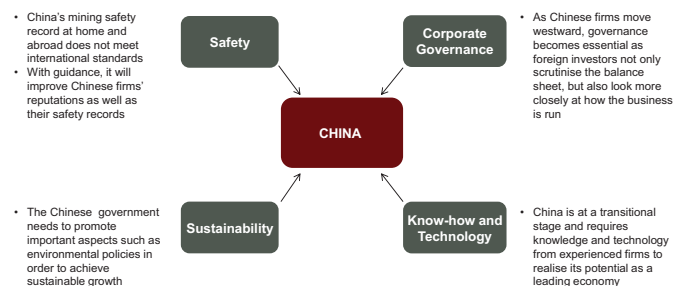
Source: The Beijing Axis Analysis

...Although certain key challenges need to be considered over the long term

- Most African countries lack linkages between Chinese and local enterprises and efforts to promote regional integration have been limited so far
- Chinese construction projects in Africa still import about half of their workforce from China. This inflow of Chinese labour into Africa has led to tensions with local communities, especially since the Chinese personnel generally do not attempt to assimilate
- Although cheaper Chinese manufactured goods benefit the African consumer, it threatens local business; the fear is that in the long-run this will harm local manufacturing capabilities and competitiveness
- China's booming resource demand could decrease the incentive for African countries to diversify their economies and lessen their dependency on commodities, contributing to African countries' susceptibility to swings in global prices

Source: The Beijing Axis Analysis

Best practices are needed as China matures into a developed economy- also in the way it engages abroad



Source: The Beijing Axis Analysis

China's 12th Five Year Plan has outlined key policies that have a large impact on the country's steel sector

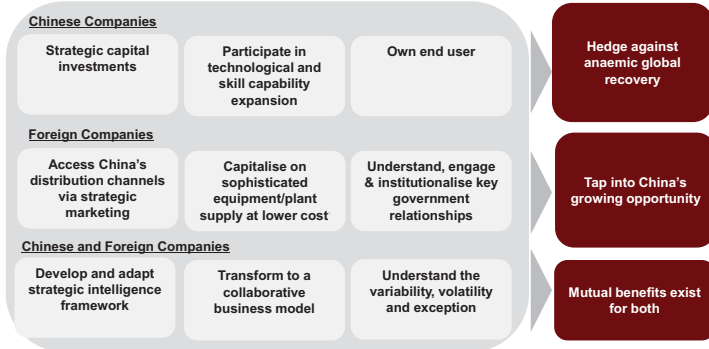


Source: Various; BrainNet EAC; The Beijing Axis Analysis



Several opportunities and implications exist for both Chinese and foreign firms

Tactics to capitalise on current situation



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Final word

- > China requires large inflows of natural resources from abroad for its drive toward modernisation - sustainable resource demand as well as some volatility
- > China's demand on chrome will keep steadily increase and stay for long term
- > Trading and overseas investment effectively close the gap between demand and supply
- > Appreciate more developed, matured approaches, when Chinese investors go global – get soft skills
- > China/Africa matters more and more and has wide-ranging influence

THANK YOU

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